REMARKS

Claims 1-28 are currently pending in this application. The Examiner has rejected claims 11-16 and 20-22 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/00075895 (Lin). Claims 1-10, 17-19 and 23-28 are rejected under 35 U.S.C. as being unpatentable over U.S. Patent Application Publication No. 2004/00075895 (Lin) in view of U.S. Patent Application Publication No. 2003/0123040 (Almogy).

Rejection Under 35 U.S.C. § 102(e) of Claims 11-16 and 20-22

The Examiner rejects **claims 11-16 and 20-22** under 35 U.S.C. § 102(e) as anticipated by U.S. Patent Application Publication No. 2004/00075895 (Lin). The Examiner treats all of these claims in a unified discussion. (OA 2)

Claims 11-16 and 20-22 include the limitations:

11. An immersion lithographic system for patterning a work piece arranged at an image plane and covered at least partly with a layer sensitive to electromagnetic radiation, comprising

- a source emitting electromagnetic radiation onto an object plane,

- a mask arranged at said object plane to relay said electromagnetic radiation toward said work piece,

- an immersion medium contacting at least a portion of an immersion optics of said lithographic system and a portion of said work piece, wherein said immersion medium is ***supplied through at least one orifice arranged in said immersion optics.***

20. An immersion lithographic system for patterning a work piece arranged at an image plane and covered at least partly with a layer sensitive to electromagnetic radiation, comprising

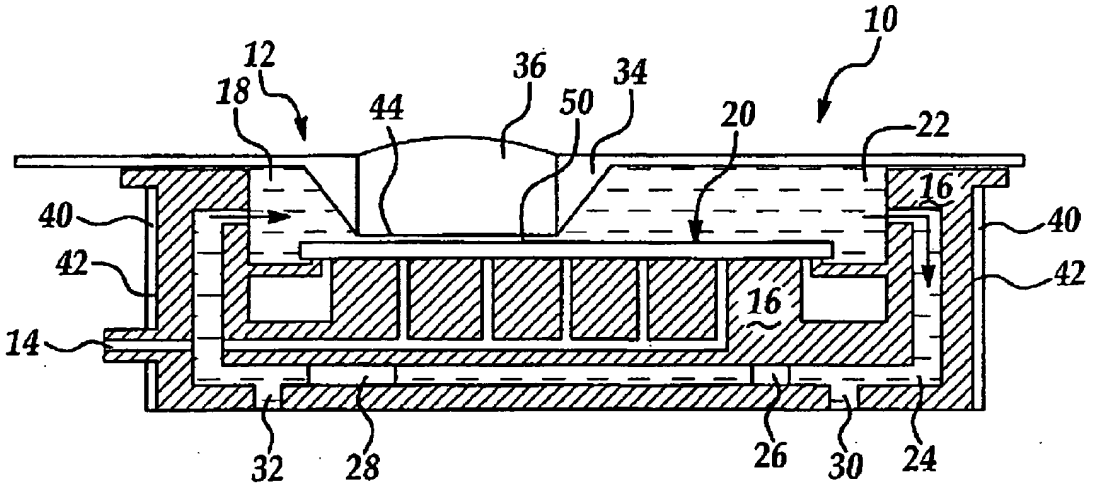
- a source emitting electromagnetic radiation onto an object plane,

- a mask, adapted to receive and modulate said electromagnetic radiation at said object plane and to relay said electromagnetic radiation toward said work piece,

- an immersion medium contacting at least a portion of a final lens of said lithographic system and a portion of said work piece, wherein an ***area of said contacting is restricted by capillary forces.***

The **bold faced** portions of these limitations are not found in Lin and the Examiner does not argue that they are.

Regarding claim 11, the Examiner asserts (OA 3) that Lin discloses "supplying the immersion fluid ... through a fluid passageway ... provided in the immersion apparatus". This assertion does not meet the words of the claim, which calls for the fluid to be *supplied through at least on orifice arranged in said immersion optics.* The Examiner does not argue that Lin meets this limitation, because Lin does not. For example, figure 1B shows a lens 36 and a fluid-containing wafer stage 12 [0031].



From figure 1, it is apparent that the inlet 32 and outlet 30 are part of the stage, not the immersion optics 36. Therefore, claim 11 is not anticipated.

Regarding claim 20, the Examiner asserts (OA 3) that Lin discloses "an immersion medium is provided in the gap between the imaging lens (immersion fluid in contact with the lens) and the top surface of the wafer". This assertion does not meet the words of the claim, which includes a limitation on immersion fluid contact with the final lens, limited such that *an area of said contacting is restricted by capillary forces.* The Examiner does not argue that Lin meets this limitation, because Lin does not. For example, figure 1B shows a final lens 36 that has very broad contact with the immersion fluid 22, limited only by a vacuum seal between a lens carrying plate 34 and the stage assembly 16. Capillary forces play no part in defining the contact between the immersion fluid 22 and the final lens assembly 36 / 34. Therefore, claim 20 is not anticipated.

Claims 12-16 and 21-22 are allowable for at least the same reasons as the claims from which they depend.

Therefore, claims 11-16 and 20-22 should be allowable over Lin.

Rejection Under 35 U.S.C. § 103(a) of Claims 1-10, 17-19 and 23-28

The Examiner rejects **claims 1-10, 17-19 and 23-28** under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. 2004/00075895 (Lin) in view of U.S. Patent Applicatication Publication No. 2003/0123040 (Almogy).

Claims 1-10, 17-19 and 23-28 include the limitations:

1. An immersion lithographic system for patterning a work piece arranged at an image plane and covered at least partly with a layer sensitive to electromagnetic radiation, comprising:

- a source emitting electromagnetic radiation onto an object plane,

- a modulator, adapted to receive and modulate said electromagnetic radiation at said object plane in accordance to an input pattern description, and to relay said electromagnetic radiation toward said work piece,

- an immersion medium contacting at least a portion of an immersion optics of said lithographic system and a portion of said work piece, wherein said ***immersion medium is supplied through at least one orifice arranged in said immersion optic.***

17. An immersion lithographic system for patterning a work piece arranged at an image plane and covered at least partly with a layer sensitive to electromagnetic radiation, comprising

- a source emitting electromagnetic radiation onto an object plane,

- a modulator, adapted to receive and modulate said electromagnetic radiation at said object plane in accordance to an input pattern description and to relay said electromagnetic radiation toward said work piece,

- an immersion medium contacting at least a portion of a objective lens of said lithographic system and a portion of said work piece, wherein ***an area of said contacting is restricted by capillary forces.***

20. An immersion lithographic system for patterning a work piece arranged at an image plane and covered at least partly with a layer sensitive to electromagnetic radiation, comprising

- a source emitting electromagnetic radiation onto an object plane,

- a mask, adapted to receive and modulate said electromagnetic radiation at said object plane and to relay said electromagnetic radiation toward said work piece,

- an immersion medium contacting at least a portion of a final lens of said lithographic system and a portion of said work piece, wherein ***an area of***

said contacting is restricted by capillary forces.

The **bold faced** limitations are not found in Lin in view of Almogy and the Examiner does not assert that they are.

We showed above that the orifice in the immersion optic limitation (claims 11 & 1) and the contacting area restricted by capillary forces (claims 20, 17 & 23) are not found in Lin.

Almogy does not meet these limitations either, as there is no immersion apparatus of any kind in Almogy. *See, e.g.*, figure 7.

Therefore, claims 1, 17 and 20 should be allowable over the proposed combination.

In addition, the Examiner's logic (OA 4) that replacing a mask with an SLM "is less expensive and requires no modification" is unsupported by any evidentiary citation and is commercially wrong. An SLM machine such as Micronic's Sigma is much more expensive than a conventional stepper that uses a mask. Demagnification is not eliminated by using an SLM, because individual modulators in an SLM assembly are much larger than the desired minimum feature sizes. Therefore, the proposed motivation for combining the references fails.

Applicants respectfully submit that claims 1-10, 17-19 and 23-28 should be allowable over Lin in view of Almogy.

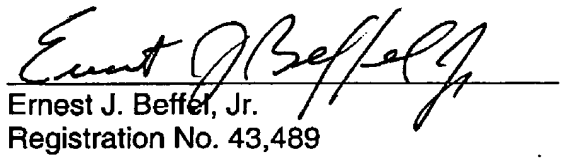
CONCLUSION

Applicants respectfully submit that the pending claims are now in condition for allowance and thereby solicit acceptance of the claims as now stated.

Applicants would welcome an interview, if the Examiner is so inclined. The undersigned can ordinarily be reached at his office at (650) 712-0340 from 8:30 a.m. to 5:30 p.m. PST, Monday through Friday, and can be reached at his cell phone at (415) 902-6112 most other times.

Respectfully submitted,

Dated: 04 January 2006



Ernest J. Beffel, Jr.
Registration No. 43,489

HAYNES BEFFEL & WOLFELD LLP
P.O. Box 366
Half Moon Bay, CA 94019
Telephone: (650) 712-0340
Facsimile: (650) 712-0263